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GEOLOGY AND PALÆONTOLOGY.

A PROBLEMATICAL FOSSIL from the Cretaceous of Bohemia is described by Dr. Anton Fric in his volume on this formation in the Archiv der Naturw. Landesdurchforschung von Böhmen, under the name of *Lepidenteron longissimum.* It is quite abundant, and resembles a cast of a worm-boring, or of an elongate alimentary canal of a fish. It is covered with scales and bones belonging to different species of fishes, and Dr. Fric suggests that it is the cast of a tube of some worm, which covered its abode with those objects, as the larvæ of *Phyganeidæ* use mineral and vegetable fragments at the present time.

THE PLASTIC CLAYS OF NEW JERSEY receive a full exposition from Prof. Cook in the last report of the Geological Survey of that State (1878), so far at least as regards those of cretaceous age. He states the view of Lesquereux that they represent the Dakota epoch of the west, and offers some pertinent remarks as to their probable origin. He believes that they were derived from the decomposition of feldspars contained in the granite and gneiss of a former extension of the azoic beds now visible to the north-east and south-west in the high grounds of the cities of New York and Philadelphia. This exposure Prof. Cook believes to have formed a barrier to the eastward of the present beds of cretaceous age, and to have at times excluded the salt-water from the enclosed lagoon. This hypothesis was, we believe, first proposed by Prof. Cope in explanation of some characteristics of the cretaceous formations of New Jersey. Additional evidence in favor of the derivation of the material from the south-east is seen by Prof. Cook in the absence from the clays of all traces of the material of the Triassic formation which bounds it on the north-west at the present time.

PLIOCENE VERTEBRATA OF THE VAL D'ARNO.—Dr. C. I. Forsyth Major, in the Atti. Soc. Toscana d. Sc. Nat., describes two species of *Canis* from the upper val d'Arno and val d'Era, which he regards as new, and names *Canis etruscus* and *C. falconeri.* The former is as large as the wolf; the latter rather larger. Mr. Major gives the following list of species of the pliocene of the upper val d'Arno; *Macacus* 2 sp., *Felis* 3 sp., *Canis* 2 sp., *Ursus* 1 sp., *Mustela* sp., *Hyæna* 2 sp., *Machærodus* 3 sp., *Equus* 1 sp., *Hippopotamus* 1 sp., *Mastodon arvernensis*, *Elephas* 1 sp., *Rhinoceros* 1 sp., *Sus* 1 sp., *Bos* 1 sp., *Cervus* 4 sp., *Castor* 1 sp., *Hystrix* sp., *Lepus* sp.

SURFACE GEOLOGY OF BRITISH COLUMBIA.—We have received from Mr. G. M. Dawson of the Canadian Geological Survey, a letter upon this subject, calling our attention to what had been printed by himself on the Geology of Vancouver Island, of which we had not known when our article was published in the NATURALIST for November, 1877.

"I have just read your interesting notes on the glaciation of the Pacific coast, in the November number of the AMERICAN NATURALIST. I traversed the same region on my way to Victoria last spring, and hope shortly to publish in the Canadian Naturalist a few memoranda made at the time. As you will see by the abstract of a paper of mine, read before the Geological Society last June (posted with this), I believe it can be shown that the glaciation of the south-eastern part of Vancouver Island was not accomplished by the glaciers of the interior of the island, as such, but by a great glacier sheet filling the Strait of Georgia, which though receiving tribute from the mountains, was fed chiefly by the accumulations on the coast range of the mainland, and perhaps through its gaps by ice from the central plateau of the country. I hope soon to be able to send to you a printed copy of the paper referred to, which will make the points on which this supposition is based, clear. The north to south glaciation of the interior of the province, mentioned in the abstract, I have been able to confirm during this season's exploration, in a number of additional localities, and have even found it furrowing the summit of an almost isolated mountain at an elevation of over 5000 feet.

"The original discovery of marine shells in the drift of Vancouver Island is due to Mr. H. Bauerman. You will find the matter mentioned in the Quart. Journ. Geol. Society, 1859, p. 198; also in Dr. Hector's Report of Explorations in the North-west; see also Mr. Dawson's article in the Canadian *Naturalist*: 'Note on some of the more recent changes in Level of the coast of British Columbia and adjacent Regions.'"

MICROSCOPY.[1]

NEW METHOD OF OPAQUE MOUNTING.—Mr. C. C. Merriman of Rochester, in a recent communication to the microscopical section of the Troy Scientific Association, describes the method of preparing his elegant preparations of foraminifera which have attracted unusual attention and admiration in the Postal Club, at the soirée of the Troy Association, and indeed wherever they have appeared. A cell is first made of a brass curtain ring slightly flattened by a hammer and suitably cemented to a slide. A cover glass, of size to match, is then varnished on one side with a thin solution of balsam, and upon this coating, when sufficiently hard, the shells are arranged in the usual manner; the whole group is then varnished over with successive coats of the balsam solution until completely imbedded in it; coats of asphalt varnish are then added until a perfect black-ground is obtained. The success of these procedures depends almost wholly upon using the solutions in a thin state, and allowing one to dry thoroughly before another is added. When all is dry and hard, the cover, with its objects mounted on it, is inverted on the cell

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[1] This department is edited by Dr. R. H. WARD, Troy, N. Y.